

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Mary Ann D. Brow *et al.*

Serial No.:

Group No.: 1636

Filed:

Examiner: W. Sandals

Entitled:

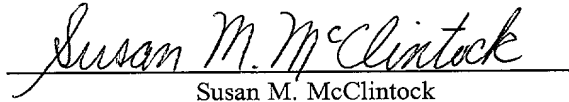
**Rapid Detection And  
Identification Of Pathogens**

**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

**CERTIFICATION UNDER 37 C.F.R. § 1.10**

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the U.S. Postal Service on this date **August 28, 2001** in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number **EL 790816765** US addressed to: **Box Patent Application**, Assistant Commissioner For Patents, Washington, D.C. 20231.

  
Susan M. McClintock

Sir/Madam:

The following communication is responsive to the Restriction Requirement in the Office Action mailed August 15, 2001 for patent application serial number 09/655,378. In the restriction requirement, the Examiner restricted the claims into four groups: Group I, Claims 45-70; Group II, Claims 71-94; Group III, Claims 95-108; and Group IV, Claims 109-123. Applicants elected Group I for prosecution with patent application serial number 09/655,378. The present Divisional Application is directed to the claims in Group III (*i.e.*, Claims 95-108).

**IN THE TITLE OF THE INVENTION**

Please substitute the title "**SYSTEMS FOR THE DETECTION OF TARGET SEQUENCES**" for the currently pending title.

**IN THE SPECIFICATION**

Please add the following paragraph after the Title of the Invention, but before the Field of the Invention.

This application is a Divisional application of co-pending application U.S. Patent Appln. Ser. No. 09/655,378, filed September 5, 2000, which is a Continuation of co-pending application U.S. Patent Appln. Ser. No. 08/520,946, filed January 15, 1998, which is a Continuing Patent Application of U.S. Patent Appln. Ser. No. 08/520,946, filed August 30, 1995, which is a Continuation-in-Part application of U.S. Patent Appln. Ser. No. 08/484,956, filed June 7, 1995, now U.S. Patent No. 5,843,654, issued December 1, 1998, which is a Continuation-in-Part application of U.S. Patent Appln. Ser. No. 08/402,601, filed March 9, 1995, now abandoned and the Continuation U.S. Patent Appln. Ser. No. 08/802,233, filed February 19, 1997, now U.S. Patent No. 5,888,780, issued March 30, 1997, which is a Continuation-In-Part Application of Application Serial No. 08/337,164, filed November 9, 1994 and the Continuation U.S. Patent Appln. Ser. No. 08/789,079, filed February 6, 1997, now U.S. Patent No. 5,719,028, issued February 17, 1998, which is a Continuation-In-Part Application of Application Serial No. 08/254,359, filed June 6, 1994, now U.S. Patent No. 5,614,402, issued March 25, 1997, which is a Continuation-In-Part Application of Application Serial No. 08/073,384, filed June 4, 1993, now U.S. Patent No. 5,541,311, issued June 30, 1996, which is a Continuation-In-Part Application of Application Serial No. 07/986,330, filed December 7, 1992, now abandoned.

**IN THE CLAIMS**

Please cancel Claim 45-94 and Claims 109-123.

**REMARKS**

Claims 45-94 and 109-123 are cancelled as they are being pursued in separate applications. A copy of the pending claims, as amended, is attached for the Examiner's convenience. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, Applicants encourage the Examiner to call the undersigned collect at (608) 218-6900.

Dated: August 28, 2001



David A. Casimir  
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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the Specification:**

At page 1, following the Title of the Invention, please insert:

--This application is a Divisional application of co-pending application U.S. Patent Appln. Ser. No. 09/655,378, filed September 5, 2000, which is a Continuation of co-pending application U.S. Patent Appln. Ser. No. 08/520,946, filed January 15, 1998, which is a Continuing Patent Application of U.S. Patent Appln. Ser. No. 08/520,946, filed August 30, 1995, which is a Continuation-in-Part application of U.S. Patent Appln. Ser. No. 08/484,956, filed June 7, 1995, now U.S. Patent No. 5,843,654, issued December 1, 1998, which is a Continuation-in-Part application of U.S. Patent Appln. Ser. No. 08/402,601, filed March 9, 1995, now abandoned and the Continuation U.S. Patent Appln. Ser. No. 08/802,233, filed February 19, 1997, now U.S. Patent No. 5,888,780, issued March 30, 1997, which is a Continuation-In-Part Application of Application Serial No. 08/337,164, filed November 9, 1994 and the Continuation U.S. Patent Appln. Ser. No. 08/789,079, filed February 6, 1997, now U.S. Patent No. 5,719,028, issued February 17, 1998, which is a Continuation-In-Part Application of Application Serial No. 08/254,359, filed June 6, 1994, now U.S. Patent No. 5,614,402, issued March 25, 1997, which is a Continuation-In-Part Application of Application Serial No. 08/073,384, filed June 4, 1993, now U.S. Patent No. 5,541,311, issued June 30, 1996, which is a Continuation-In-Part Application of Application Serial No. 07/986,330, filed December 7, 1992, now abandoned.--

**PENDING CLAIMS**

95. A system, comprising:

- a) a target nucleic acid, said target nucleic acid comprising a first region and a second region, said second region downstream of said first region;
- b) a first oligonucleotide comprising a 3' portion and a 5' portion;
- c) a second oligonucleotide; and
- d) a third oligonucleotide;

wherein at least said 3' portion of said first oligonucleotide is complementary to said first region of said target nucleic acid, wherein at least a portion of said second oligonucleotide is complementary to said second region of said target nucleic acid, and wherein said 5' portion of said first oligonucleotide is complementary to said at least a portion of said third oligonucleotide.

96. The system of Claim 95, wherein said third oligonucleotide comprises a label.

97. The system of Claim 95, wherein said label comprises a fluorophore.

98. The system of Claim 95, wherein said label comprises a fluorophore having quenched emission.

99. The system of Claim 95, wherein said label is selected from the group consisting of biotin, a radiolabel, a hapten, a detectable nucleic acid, a peptide, a chromophore, and a dye.

100. The system of Claim 95, further comprising a solid support attached to at least one of said first, second and third oligonucleotides.

101. The system of Claim 100, wherein said first oligonucleotide is attached to said solid support.

102. The system of Claim 100, wherein said second oligonucleotide is attached to said solid support.

103. The system of Claim 100, wherein said third oligonucleotide is attached to said solid support.

104. The system of Claim 95, wherein said first and said second regions of said target nucleic acid are adjacent to each other.

105. The system of Claim 95, wherein said portion of said second oligonucleotide complementary to said second region of said target nucleic acid comprises a 3' terminus.

106. The system of Claim 95, wherein said third oligonucleotide comprises a hairpin structure that comprises a duplex region adjacent to a single-stranded 3' arm.

107. The system of Claim 106, wherein said portion said third oligonucleotide that is complementary to said 5' portion of said first oligonucleotide comprises at least a region of said single-stranded 3' arm of said hairpin structure.

108. The system of Claim 107, wherein said region of said single-stranded 3' arm is adjacent to said duplex region of said hairpin structure.